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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,413	01/12/2001	Michael Mao Wang	CE08264R	2356
22917	7590	05/20/2004	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			BURD, KEVIN MICHAEL	
			ART UNIT	PAPER NUMBER
			2631	2
DATE MAILED: 05/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/760,413

Applicant(s)

WANG, MICHAEL MAO

Examiner

Kevin M Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the single time offset of the second group of time offsets being between two adjacent time offsets of the first group of time offsets as stated in claim 14 must be shown or the feature canceled from the claim. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claim 14 is objected to because of the following informalities: line 4 discloses the term "grout". It is believed this term should be changed to "group". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The single time offset of the second group of time offsets being between two adjacent time offsets of the first group of time offsets is recited in the claim but not show in the specifications. If one time offset is even and the other is odd, this limitation will be met. However, it appears, from figure 5, that the even and odd time offsets are grouped separately to be integrated. If this is so, it is unclear from the disclosure where the placement of the time offsets is disclosed. Clarification or correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-6, 8, 9, 11, 13 and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by the instant application's disclosed prior art, specifically figures 1 and 2.

Regarding claim 1, the instant application's disclosed prior art discloses a method for performing a mobile communication signal search using a multipath signal searcher in a CDMA wireless communication system (page 3, lines 5-7). The searcher includes a plurality of paths (page 1, lines 12-25). Time offsets are assigned to specific groups across a search window as shown in figures 1 and 2. A search metric is accumulated over these groups (page 3, lines 5-21).

Regarding claim 2, figure 1 shows the groups of time offsets are distributed evenly across the search window.

Regarding claim 3, figures 1 and 2 show the group of time offsets comprise even offsets.

Regarding claim 4, figures 1 and 2 show the group of time offsets comprise odd offsets.

Regarding claim 5, the instant application's disclosed prior discloses using wideband CDMA communication systems with the IS-2000 standard (page 2, lines 1\6-13) and coherently accumulating the search metric over a plurality of power groups (page 3, lines 5-21).

Regarding claim 6, the instant application's disclosed prior art discloses using a narrowband CDMA communication system with an IS-95 standard in page 2, lines 1-5.

Regarding claim 8, the instant application's disclosed prior art discloses a method for performing a mobile communication signal search using a multipath signal searcher in a CDMA wireless communication system (page 3, lines 5-7). The searcher includes a plurality of paths (page 1, lines 12-25). Time offsets are assigned to specific groups across a search window as shown in figures 1 and 2. A search metric is accumulated over these groups (page 3, lines 5-21). Figure 1 shows the groups of time offsets are distributed evenly across the search window.

Regarding claim 9, figures 1 and 2 show the group of time offsets comprise even offsets and show the second group of time offsets comprise odd offsets.

Regarding claim 11, the instant application's disclosed prior art discloses a method for performing a mobile communication signal search using a multipath signal searcher in a CDMA wireless communication system (page 3, lines 5-7). The searcher includes a plurality of paths (page 1, lines 12-25). Time offsets are assigned to specific groups across a search window as shown in figures 1 and 2. A search metric is accumulated over these groups (page 3, lines 5-21). Figure 1 shows the groups of time offsets are distributed evenly across the search window.

Regarding claim 13, the spacing between the time offsets is identical as shown in figures 1 and 2.

Regarding claim 15, the integration time periods shown in figures 1 and 2 are identical.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art, specifically figures 1 and 2.

Regarding claim 16, the instant application's disclosed prior art is described above in paragraph 5. Figure 1 shows a serial searcher function and shows the searching of a first half of offsets followed by the searching of a second half of offsets. The serial searching mode has the advantage of limiting the size of the searcher circuitry but the disadvantage of the time it takes to compute all of the search metrics over the entire search window is long. Figure 2 shows a parallel searcher function and shows the searching of the first and second half offsets at the same time. The parallel searching mode has the advantage of reducing the time it takes to compute all of the search metrics over both halves of the offsets but has the disadvantage of increasing the complexity, size and cost of the circuitry of the searcher. By combining the 2 methods, a balance of cost versus time can be achieved. For this reason, it would have been obvious for one of ordinary skill in that art at the time of the invention to use both the serial and parallel modes of computing the search metric to achieve a desired speed of computation at a desired circuit complexity.

7. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art, specifically figures 1 and 2 in view of Wang et al (US 6,125,137).

Regarding claims 7 and 10, the instant application's disclosed prior art discloses the method stated above in paragraph 5. The instant application's disclosed prior art does not disclose sorting and ranking the search metrics to produce the best time offsets. Wang discloses computing metrics and sorting and ranking the results (column 5, lines 46-64). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the teachings of Wang in the instant application's disclosed prior art at time of the invention to ensure the best set of time offsets are produced (column 5, lines 51-57).

8. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art, specifically figures 1 and 2 in view of Wang et al (US 6,125,137).

Regarding claims 17 and 18, the instant application's disclosed prior art discloses the method stated above in paragraph 6. The instant application's disclosed prior art does not disclose sorting and ranking the search metrics to produce the best time offsets. Wang discloses computing metrics and sorting and ranking the results (column 5, lines 46-64). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the teachings of Wang in the instant application's disclosed



Art Unit: 2631

prior art at time of the invention to ensure the best set of time offsets are produced (column 5, lines 51-57).

***Allowable Subject Matter***

9. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Contact Information***

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Kevin M. Burd  
PATENT EXAMINER  
5/17/2004